EXHIBIT 1

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Paper 13
Entered: July 1, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DELL TECHNOLOGIES INC., DELL INC., AND EMC CORPORATION,
Petitioners,

v.

WSOU INVESTMENTS, LLC d/b/a BRAZOS LICENSING AND DEVELOPMENT,
Patent Owner.

IPR2021-00272
Patent 8,913,489 B2

Before THU A. DANG, BRIAN J. McNAMARA, and JOHN D. HAMANN, *Administrative Patent Judges.*

McNAMARA, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Dell Technologies Inc., Dell Inc., and EMC Corporation (collectively, "Petitioner") filed a petition, Paper 2 ("Petition" or "Pet."), to institute an *inter partes* review of claims 1–20 (the "challenged claims") of U.S. Patent No. 8,913,489 B2 ("the '489 patent"). 35 U.S.C. § 311. WSOU Investments, LLC d/b/a Brazos Licensing and Development ("Patent Owner") filed a Preliminary Response, Paper 11 ("Prelim. Resp."), contending the Petition should be denied as to all challenged claims. We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition and any response "shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."

"When instituting inter partes review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim." 37 C.F.R § 42.108(a) (2021). Having considered the arguments and the associated evidence presented in the Petition and the Preliminary Response, for the reasons described below, we institute *inter partes* review.

II. REAL PARTIES IN INTEREST

The Petition identifies Dell Technologies Inc., Dell Inc., and EMC Corp. as real parties-in-interest. Pet. 1. Patent Owner identifies WSOU Investments, LLC d/b/a Brazos Licensing and Development as the sole real party-in-interest. Paper 4, 1.

III. RELATED MATTERS

Petitioner and Patent Owner state that the '489 patent is asserted in the following litigation: *WSOU Investments, LLC v. Dell Technologies Inc., et*

al., No. 6:20-cv-477 (W.D. Tex.) (the "Texas Litigation" or the "parallel litigation" or the "District Court litigation"). Pet. 1; Paper 4, 2.

IV. DISCRETION UNDER SECTION 314(A)

A. Introduction

In view of the Texas Litigation, Patent Owner contends that we should exercise discretion under Section 314(a) to deny institution of *inter partes* review. *See* Prelim. Resp. 4–13. Under § 314(a), the Director has discretion to deny institution of an *inter partes* review. *See* 37 C.F.R. § 42.4(a) ("The Board institutes the trial on behalf of the Director."); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is a matter committed to the Patent Office's discretion."); *SAS Inst. Inv. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) ("[Section] 314(a) invests the Director with discretion on the question whether to institute review . . . ." (emphasis omitted)); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.").

In *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752 (PTAB Sep. 12, 2018) (Paper 8 at 19–20) (precedential), the Board denied institution relying, in part, on § 314(a) because the parallel district court proceeding was scheduled to finish before the Board reached a final decision. "Thus, *NHK* applies to the situation where the district court has set a trial date to occur earlier than the Board's deadline to issue a final written decision in an instituted proceeding." *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019 (PTAB Mar 20, 2020) (Paper 11, 3) (Precedential). When determining whether to exercise discretion to deny institution under *NHK* due to an earlier trial date, we consider the following factors articulated in *Fintiv* ("*Fintiv* factors"):

> 1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
> 2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
> 3. investment in the parallel proceeding by the court and the parties;
> 4. overlap between issues raised in the petition and in the parallel proceeding;
> 5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
> 6. other circumstances that impact the Board's exercise of discretion, including the merits.

Id. at 5–6. "These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding." *Id.* at 6. In evaluating these factors, we take "a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Id.* (citing Patent Trial and Appeal Board Consolidated Trial Practice Guide November 2019 ("CTPG"), 58.).

B. The Texas Litigation

On June 2, 2020, Patent Owner filed twelve (12) separate patent infringement actions against Petitioner, one of those actions alleging infringement of the '489 patent; Petitioner waived service on July 2, 2020. Pet. 59. At the time of the Petition, the cases had not been formally consolidated. *Id.* As to consolidation of the cases, on November 2, 2020, the district court stated

> the Court does not intend on trying the cases in 'groups' nor does the Court intend on trying all 12 patents in one trial. However, due to logistics and to provide flexibility, the Court is setting trial for all of these cases for 4/11/2022 which was the date provided to you by the Court in my 10/12/2020 email.

Dell Techs., Inc. v. WSOU Investments, IPR2021-00225 (the "-225 IPR"), Ex. 1105. On November 3, 2020 the court added

> For clarification, the Court does not intend on trying the cases in the Markman groups and currently has no intention of consolidating them for trial. However, as none of these cases have had their Markmans yet, the Court is unaware of exactly how related the patents may be and if the need does arise the Court *may* decide to consolidate certain patents for trial. But as of now, the Court is not intending on consolidating simply for the sake of consolidation.

See the -0225 IPR, Ex. 1106 (emphasis by the Court).

On October 14, 2020, Patent Owner served its preliminary infringement contentions in the district court and "for the first time, identified all 20 claims of the '489 patent as the asserted claims." Pet. 59. Petitioner states that on December 4, 2020, in the Texas Litigation Petitioner stipulated that, "if *inter partes* review is instituted on Grounds 1–4 in this proceeding, Petitioner will not pursue these grounds or any other possible prior art printed publication grounds based on the references in Grounds 1–4 in the District Court litigation." *Id.*at 59–60. On December 9, 2020, Petitioner filed its Petition for institution of the instant IPR. *See* Paper 6, 1.

According to the Petition, *Markman* hearings were set for April 29–30, 2021, but in view of the multiple cases and unrelated cases scheduled for the same dates, the actual hearing date was uncertain. Pet. 60. Petitioner also states that "based off the *Markman* hearing," "[t]he first of the 12 trials is currently assumed to start on May 2, 2022, but it is not yet determined which case will be tried first." *Id.*

The district court held *Markman* hearings on May 10, 2021, and May 26, 2021, and issued a claim construction order on May 27, 2021. Paper 12. Petitioner has agreed to a case schedule proposed by Patent Owner with the

following additional dates: fact discovery to begin on April 19, 2021, parties can be added until May 28, 2021, final infringement and invalidity contentions are due on June 11, 2021, pleadings can be amended until August 6, 2021, fact discovery closes on November 12, 2021, expert discovery begins on November 19, 2021 and ends on January 14, 2022, and a final pre-trial conferences takes place on March 25, 2022. *See*, the -225 IPR, Ex. 1101, Exhibit A, Ex. 1004, 9, Ex. 1106, 2.

On April 22, 2021 the district court began a *Markman* hearing in a related one of the 12 cases, which it resumed and concluded on April 26, 2021. *See* the -225 IPR, Transcript of Proceeding - Part 1 (Ex. 1107, "Markman Tr. Part 1"), Transcript of Proceedings, - Part 2 (Ex. 1108, "Markman Tr. Part 2"). Before adjourning the proceedings on April 22, the court requested the parties consider how the 12 patents involved could be grouped for purposes of trial, e.g. grouping the patents for three or four trials. *See*, -the 225 IPR, Ex. 1107, 46:17–48:3. Presiding Judge Albright stated "in terms of what trial would go first, maybe I'll make that decision just because you all might have binary reasons to think one trial might benefit. You might not be able to agree with that." *Id.* at 47:14–17.

On April 26, 2021, the parties reported to the court that they believe three trials would be appropriate, although they have not yet determined how the patents should be grouped and could pick three dates after expert reports were shared. *See* the -225 IPR, Ex. 1108, 42:14–43:5, 44:17–30. Judge Albright determined that pre-trial activities, such as discovery, expert reports, and summary judgement should all be completed on the same schedule ahead of the first trial date. *Id.* at 43:6–44:23. Judge Albright then speculated that, for example, that he could set May 1, 2022 as the date to begin the first trial and a Monday every two months after that as the dates

for the three trials. *Id.* at 45:1–6. Judge Albright further noted that shortly after summary judgment, a decision could be made as to which patents are tried first. *Id.* at 45:4–6. Judge Albright further stated "only if you guys can't decide which three or four patents to go first or how to do things, then you come to me and say, here's our suggestions, and I'll pick between them. But I am going to be as deferential to you all as I can, just assuming my schedule will permit it." *Id.* at 45:19–24.

The parties have not identified any specific trial dates for any grouping of patents at this time.

C. Analysis

We analyze each of the *Fintiv factors* as follows:

1. *whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted*

A district court stay of parallel litigation pending resolution of an *inter partes* review allays concerns about inefficiency and duplication of efforts, a fact which weighs against exercising the authority to deny institution. *Fintiv*, Paper 11 at 6. Here, the district court in the parallel litigation has not granted a stay or been asked to do so yet. Pet. 60–61. Petitioner states that the district court would consider a motion to stay before an institution decision premature. *Id.* Patent Owner argues there is no evidence a stay would be granted in this case and, based on his rulings in other cases, it is unlikely Judge Albright would grant a stay. Prelim. Resp. 6.

We decline to speculate based on the record in this proceeding as to whether the district court would grant a stay in the parallel litigation pending this *inter partes* review. Notably, neither party identifies any statements by Judge Albright or other evidence that specifically addresses a stay for this particular parallel litigation. "A judge determines whether to grant a stay

based on the facts of each specific case as presented in the briefs by the parties." *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15, 12 (PTAB May 13, 2020) (informative) ("*Fintiv II*"). "We decline to infer, based on actions taken in different cases with different facts, how the District Court would rule should a stay be requested by the parties in the parallel case here." *Id.* Accordingly, we assess this factor as neutral.

2. *proximity of the court's trial date to the Board's projected statutory deadline for a final written decision*

Patent Owner states "[t]he district court has set a trial date for May 2, 2022 (admitted at page 60 of the Petition), a month before the expected Final Written Decision here." Prelim. Resp. 6. During the April 26, 2021 *Markman* hearing, Judge Albright clarified, and the parties agreed, that not all twelve of the 12 cases would proceed to trial on the same date. *See* the -225 IPR, Ex. 1108, 41:12–41:22, 42:13–46:6. Rather, the cases would be divided into multiple groups for separate trials. *Id.; see also id.* at 46:3–5 (Judge Albright stating that "I'm thinking . . . four is probably the most patents I would do at a trial").

Moreover, Judge Albright stated, and the parties agreed, that which patents are tried in which group (e.g., which of the twelve patents would go first) would be decided closer in time to the trials. *See id.* at 42:24–25 (Patent Owner stating that it "would suggest holding off on exactly which patents go into which trial dates"); *id.* at 44:12–14 (Petitioner stating that "it would be advantageous to [Petitioner] going forward if [it] could get [its] groupings prior to just before trial"); *id.* at 45:4–6 (Judge Albright stating that "we'll figure out down the road, somewhere shortly after summary judgments, hopefully, which patents will go first").

In light of the above, we find that no trial date, in fact, has been set for the '489 patent. More specifically, the district court and the parties agree (i) that there will be multiple trials, and (ii) which patents go with which trial has not been determined yet. Put differently, whether the '489 patent will be part of the first trial remains to be decided.

The projected statutory deadline for a final decision in this proceeding is July 5, 2022 (one year after the due date for an institution decision in this proceeding). This is about two months after the originally projected May 2, 2022 trial date, assuming this date does not slip. A second trial likely would occur around, or shortly after, the entry of a final decision in this proceeding. *See id.* at 44:24–45:6 (Judge Albright suggested that there could be two months between trials). And a third trial likely would occur about two months after a final decision is entered in this proceeding. *See id.* at 44:24–45:6, 46:3–5. However, the specific dates for any subsequent trials are speculative, as they have not been set yet by the district court.

If the district court's trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor of exercising discretion to deny institution. *Fintiv*, Paper 11 at 9. If the court's trial date is at or around the same time as the projected statutory deadline, the decision whether to institute will likely implicate other *Fintiv* factors, such as the resources that have been invested in the parallel proceeding. *Id.* Accordingly, considering all of the circumstances present here, we assess this factor as neutral.

3. *investment in the parallel proceeding by the court and the parties*

Patent Owner argues that the parties have exchanged preliminary infringement contentions and preliminary invalidity contentions, and by the

institution date, the district court will have proceeded past claim construction stage and fact discovery will be well underway. Prelim. Resp. 7–8. Petitioner argues that it "worked diligently to file this petition while the related District Court litigation is still at an early phase." Pet. 63 (noting that on the Petition's filing date, the parties had yet to file claim construction briefs, no claim construction orders had issued, and fact discovery had not formally opened).

We recognize that the district court and the parties have invested effort with respect to claim construction in the parallel litigation. For example, the parties have exchanged proposed claim constructions, briefed the claim construction issues, participated in a *Markman* hearing and the district court entered its claim construction order. *See* Paper 12. However, much of this invested effort is unconnected to the patentability challenges presented here. *See Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24, 11–12 (PTAB June 16, 2020) (informative) (finding that *Fintiv* factor 3 "weighs only marginally, if at all" toward discretionary denial even though district court had held a *Markman* hearing and construed the claims, because "much of the district court's investment relates to ancillary matters untethered to the validity issue itself" and "much work remains in the district court case as it relates to invalidity"). And although the parties have exchanged preliminary contentions, substantial work remains to be done as it relates to invalidity: fact discovery is in its early stages, expert reports are not yet due, and substantive motion practice is yet to come. *See generally* Exs. 1101 and 2001; Ex. 1104, 9–10.

Secondly, we agree with Petitioner that it acted promptly by filing its Petition at the early stages of the litigation, i.e., on December 9, 2020, or

about seven weeks after receiving Patent Owner's preliminary infringement contentions on October 14, 2021. *See* Pet. 59. "If the evidence shows that the petitioner filed the petition expeditiously, such as promptly after becoming aware of the claims being asserted, this fact has weighed against exercising the authority to deny institution under *NHK*." *Fintiv*, Paper 11 at 11.

Accordingly, on the whole, this factor weighs in favor of not exercising discretion to deny institution under 35 U.S.C. § 314(a). In particular, in considering this factor, we find that the substantial work that remains on invalidity issues in the parallel litigation and Petitioner's expeditious filing of its Petition substantially outweighs the minimal investment in the work done so far.

4. *overlap between issues raised in the petition and in the parallel proceeding*

This factor evaluates "concerns of inefficiency and the possibility of conflicting decisions" when substantially identical prior art is submitted in both the district court and the *inter partes* review proceedings. *Fintiv*, Paper 11 at 12. Petitioner cites its stipulation that it "will not assert that the challenged claims are invalid on the instituted grounds in the related litigation, nor any other possible prior art printed publication grounds based on the references in Grounds 1–4." Pet. 65. Patent Owner states Petitioner stipulated

> Defendants hereby stipulate that, if the Board institutes *inter partes* review on IPR2021-00272, then Defendants will not assert invalidity of claims 1–20 of the '489 patent in this case based on any of the four grounds listed above, or on any other grounds involving the Narayanan, Smith, Chin, Mullooly, and Moberg references alone or in combination with any other patent or printed publication.

> This stipulation is not intended and should not be construed to limit Defendants' ability to assert invalidity of the claims of the '489 patent based on prior art not consisting of patents or printed publications, alone or in combination with any other reference whatsoever.

Prelim. Resp. 9 (quoting Ex. 2001).

Patent Owner faults Petitioner's stipulation as carving out "a large loophole for itself where Petitioner can assert the exact same grounds and prior art references in this Petition, but present it in 'combination' with any 'prior are not consisting of patents or printed publications', such as any prior art system." *Id.* at 10. According to Patent Owner, "Petitioner will be free to pursue invalidity in the district court litigation under any grounds, even the exact same grounds cited in the instant Petition, and Petitioner's filed 'stipulation' expressly provides for such a result." *Id.*

We disagree with Patent Owner. *Inter part*es review is limited to patents and printed publications, and Petitioner has stipulated that if we institute *inter partes* review, in the district court Petitioner will not pursue invalidity on the four grounds asserted in the Petition. Patent Owner's argument that Petitioner has carved out a loophole because its stipulation does not forgo grounds outside the scope of *inter partes* review, i.e., grounds including "prior art not consisting of patents or printed publications," is unavailing. *Id.* at 10. Simply put, the grounds asserted here will be addressed first by the Board in a final decision (assuming that this proceeding does not terminate beforehand (e.g., by settlement)) due to the stipulation. *See* Ex. 1102, 1. To the extent that we conclude that Petitioner has not demonstrated that the challenged claims are unpatentable, Petitioner likely is estopped from asserting these same grounds in the parallel litigation. *See* 35 U.S.C. § 315(e)(2) ("The petitioner in an inter partes

review of a claim in a patent . . . that results in a final written decision . . . may not assert . . . in a civil action . . . that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review."). Moreover, to the extent that the parallel litigation is not stayed, Petitioner's stipulation likely precludes Petitioner from pursuing the grounds asserted here in the parallel litigation due to scheduling, such as provided for in the Order Governing Proceedings – Patent Case in the parallel litigation, which sets a deadline for Petitioner to serve final invalidity contentions of eight weeks after the *Markman* hearing. *See,* the -225 IPR, Ex. 2010, 9.

Thus, Petitioner's stipulation would function like the stipulation in *Sand Revolution*, where the Board found that "this factor weighs marginally in favor of not exercising discretion to deny institution" when the Petitioner stipulated not to pursue in district court the same grounds presented in its petition. *See Sand Revolution*, Paper 24 at 12. On the other hand, to the extent that we conclude that Petitioner has demonstrated that the challenged claims are unpatentable, the grounds asserted in the Petition likely would not be the subject of later district court litigation, subject to appeal of our final decision.

Accordingly, we find that Petitioner's stipulation mitigates to some degree the concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions. Thus, this factor weighs marginally in favor of not exercising discretion to deny institution under 35 U.S.C. § 314(a).

5. *whether the petitioner and the defendant in the parallel proceeding are the same party*

Patent Owner argues that this factor weighs against institution, because Patent Owner is the plaintiff and Petitioner is the defendant in the parallel district court litigation. Prelim. Resp. 12. Petitioner argues that this factor depends on whether the final written decisions or the trial will occur first. Pet. 66 (citing *Google LLC, et al. v. Parus Holdings, Inc.*, IPR2020-00846, Paper 9 at 20–21 (PTAB Oct. 21, 2020)). This factor favors denial if trial precedes the Board's Final Written Decision and favors institution if the opposite is true.

We agree with Petitioner that, as discussed above, it is uncertain which proceeding will conclude first. Accordingly, this factor weighs neutral.

6. *other circumstances that impact the Board's exercise of discretion, including the merits*

As explained below, on the preliminary record, the merits of Petitioner's case are straightforward and strong. *See infra* Section X. We find that this factor weighs strongly in favor of not exercising discretion to deny institution under 35 U.S.C. § 314(a). *See Fintiv*, Paper 11 at 14–15S ("[I]f the merits of a ground raised in the petition seem particularly strong on the preliminary record, this fact has favored institution."); *Sand Revolution*, Paper 24 at 13 ("We determine, on this preliminary record, that Petitioner has set forth a reasonably strong case for the obviousness of most challenged claims. Thus, this factor weighs [strongly] in favor of not exercising discretion to deny institution under 35 U.S.C. § 314(a).").

D. Conclusion

Because the analysis is fact-driven, no single factor is determinative of whether we exercise our discretion and deny institution under 35 U.S.C. § 314(a). On this record, based on a holistic review of the *Fintiv* factors, we conclude that the factors disfavoring denial outweigh those in favor. We therefore decline to exercise our discretion under 35 U.S.C. § 314(a) to deny institution of an *inter partes* review.

V. THE '489 PATENT

The '489 patent "relates generally to data networks and in particular to systems and methods for providing topological redundancy and resiliency between nodes of one or more data networks." Ex. 1001, 1:47–50. According to the '489 patent, a three tier data network includes an edge layer, an aggregation layer, and a core layer. *Id.* at 1:66–2:2. As the entry point of a network to which a customer network is nominally attached, the access/edge layer includes edge networks that provide connectivity between an Enterprise or home network, e.g., a local area network, and a metro or core network. *Id.* at 2:2–9. Switches residing at the edge layer, known as edge nodes, perform Open Systems Interconnection Data Link Layer (L2) switching for the attached devices and are generally connected to an aggregation layer that terminates access links from multiple edge nodes. *Id.* at 2:9–15, *see also id.* at 4:22–23. Aggregation switches residing at the aggregation layer perform L2 switching or OSI Network Layer (L3) routing of traffic that is received via aggregate links from the edge nodes. *Id.* at 2:16–18. The aggregation layer is connected to a metro or core network that performs L3 IP routing of traffic received from the aggregation switches (or from edge nodes in a two tier network). *Id.* at 2:19–22.

Topological redundancy provides network resiliency. i.e., the ability to maintain high network availability during periodic failures of components or links. Ex. 1001, 2:25–30. Topical redundancy includes: redundant nodes, redundant components within nodes, redundant links, multiple physical paths between nodes, and L2/L3 protocols that exploit such redundancies to converge upon alternate paths for routing traffic through the network. *Id.* at 2:29–35. Ethernet technology employs spanning tree protocol (STP) to detect failures and divert traffic. *Id.* at 2:51–57.

> STP relies on multiple physical paths between switches, but with only one path active at any one time for a particular packet flow, the other path being placed in a blocking mode (defining an "active/passive' paradigm). When failures occur, an alternative path is brought out of the blocking mode into an active state, thereby re-establishing the connection.

Id. at 2:57–63. According to the '489 patent, STP can result in unacceptable convergence times. *See id.*at 2:64–3:12.

In the '489 patent, a "Link Aggregation Control Protocol (LACP) provides a method to control the bundling of several physical links, called a link aggregation group (LAG), between two peer nodes to form a single logical channel there between." *Id.* at 4:41–44. "To provide increased resiliency and remove a single point of failure, a LAG is split across two devices," referred to as a multi-chassis link aggregation group (MC-LAG). *Id.* at 4:54–57. A schematic block diagram of a network architecture according to the invention is shown in Figure 1 of the '489 patent reproduced below.

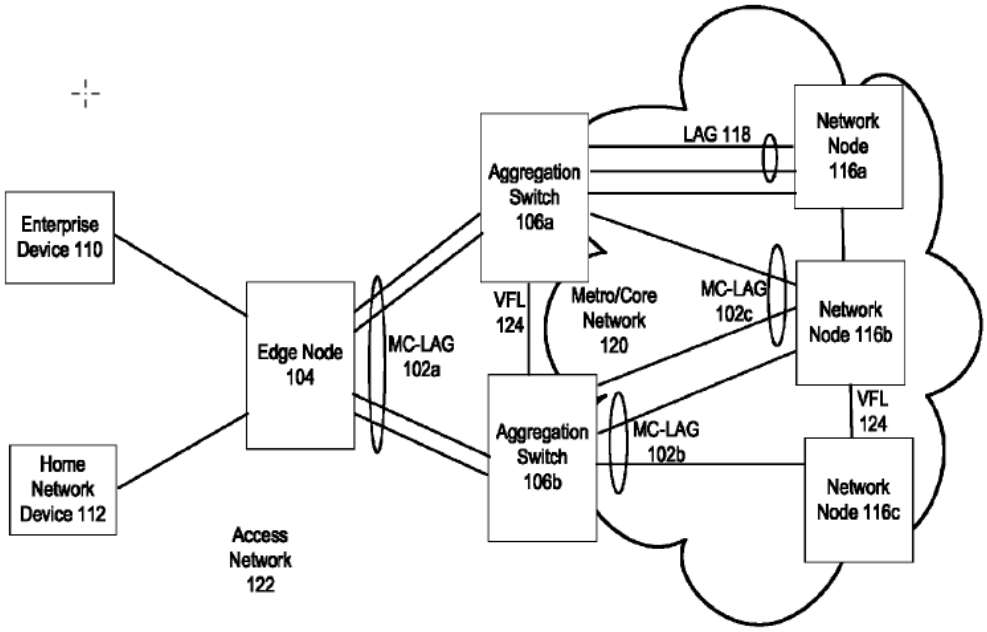

Figure 1 of the '489 patent

In Figure 1 Edge Node 104, e.g. a switch or a server, is connected over access network 122 to enterprise devices 110, 112 that may be operating a LAN or home network, respectively. *Id.* at 5:3–12. A MC-LAG 102a originating from edge node 104 is split into two subsets, with one or more physical links in each subset, across two devices, e.g., aggregation switches 106a and 106b. *Id.* at 4:57–63. For each packet transmitted over MC-LAG 102a, a physical link is selected based on load balancing techniques. *Id.* at 4:62–65. Virtual fabric link (VFL) 124 provides connection for exchanging between aggregation switches 106 "traffic forwarding information, MAC addressing, multicast flows, address resolution protocol (ARP) tables, Layer 2 control protocols (e.g. spanning tree, Ethernet ring protection, logical link detection protocol), routing protocols (e.g. RIP OSPF, BGP) and the status of the MC-LAGs 102 connected thereto." *Id.* at 5:13–22. When forwarding traffic on MC-LAG 102a, node 104 treats aggregation switches 106 as a single logical device. *Id.* at 5:22–25. L2 packet flows over VFL 124 drive

synchronization of MAC address tables and other forwarding information between aggregation switches 106. *Id.* at 5:26–29. According to the '489 patent "[t]his feature enables dual homing of the edge node 104 to the pair of aggregation switches 106 and provides a Layer 2 multi-path intra-structure as well as basic Layer 3 access infra-structure," without requiring L2 redundancy protocols, e.g., STP between edge node 140 and aggregation switches 106. *Id.* at 5:30–40. Network nodes 116 of core network 120 can also be connected using MC-LAG functionality. *See id.* at 6:1–16.

Figure 9 of the '489 patent is reproduced below.

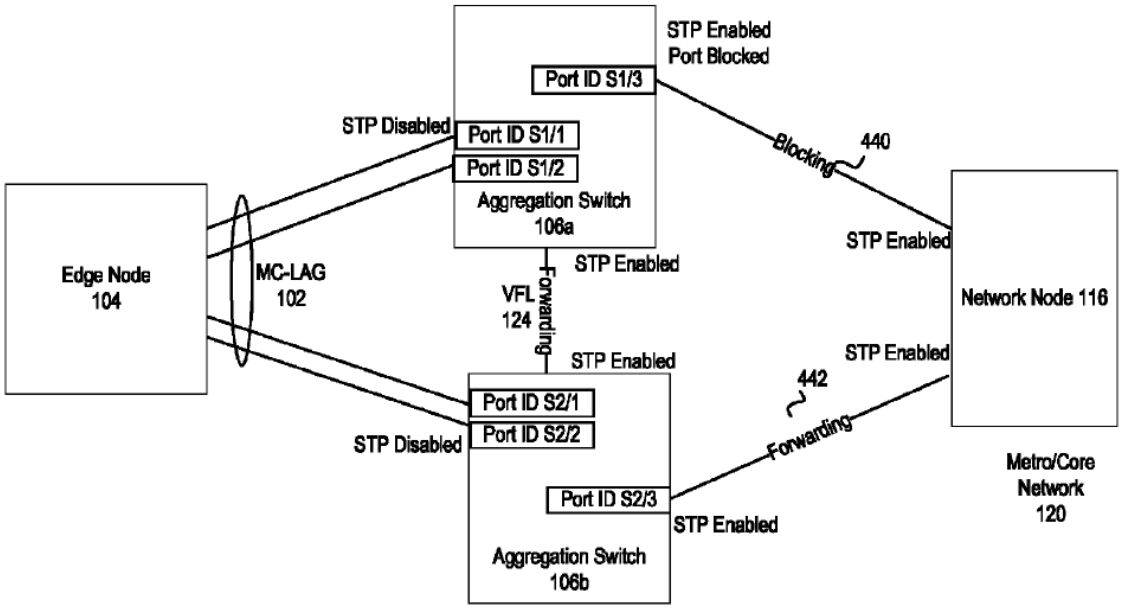

Figure 9 of the '489 patent

Figure 9 "illustrates an embodiment of the link status of the aggregation switches 106 when VFL 124 is operational." Ex. 1001, 16:45–46. When VFL 124 is operational, a spanning tree protocol is automatically disabled on MC-LAG member ports S1/1, S1/2 in aggregation switch 106a and ports S2/1, S2/2 in aggregation switch 106b. *Id.* at 16:48–51. "From edge node 104 the links of MC-LAG 102 coupled to aggregations switches 106a, 106b are part of a single link aggregate group (LAG) to a single logical node." *Id.*

at 16:51–54. The spanning tree protocol is enabled in the portion of the network between switches 106 and nodes in the metro/core network, e.g., network node 116; the spanning tree protocol also is enabled in the VFL member ports and configured to be in a forwarding state. *Id.* at 16:54–58. To prevent loops between aggregation switch 106 and node 116, the spanning tree protocol determines one or more ports for forwarding packets from aggregation switch 106 (link 442) and one or more ports that are blocked from forward packet flows (link 440). *Id.* at 16:59–63.

Aggregation switches 106 can detect a failure of the VFL Ex. 1001, 17:7–8. "[W]hen the aggregation switches 106 determine that a connection failure has occurred such that the aggregation switches 106 are not able to communicate over the VFL 124, the aggregation switches 106 then reconfigure the MC-LAG 102 into one or more link aggregates connected to the edge node 104." *Id*. at 18:2–7, 18:60–63, 19:11–15.

Figure 11 of the '489 patent is shown below.

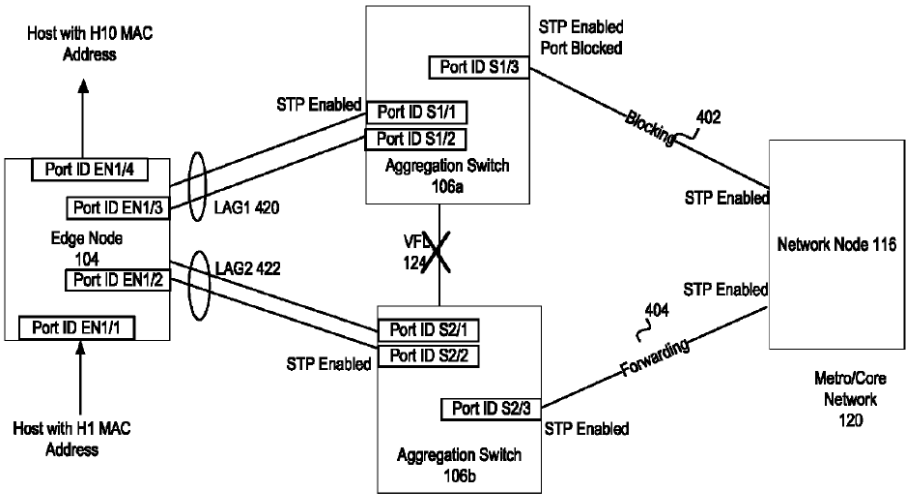

Figure 11 of the '489 patent

Figure 11 "illustrates an embodiment for recovery when a connection failure occurs over VFL 124." *Id.* at 17:66–67. As shown in Figure 11, MC-LAG

102 in Figure 9 now is configured into at least two link aggregates with at least one link aggregate, LAG1 (420), connected from edge node 104 to aggregation switch 106a and another link aggregate, LAG2 (422), connected from edge node 104 to switch 106b. *Id.* at 18:7–12, 19:11–20:24. The aggregation switches enable an STP on link aggregates LAG1 420 and LAG2 422 connected to edge node 104, as well as between aggregation switches 106 and core network 120. *Id.* at 18:12–16. The STP "determines an active path through the network and blocks one or more other paths to prevent loops." *Id.* at 18:41–42, 19:15–18, 20:25–38.

MAC table entries previously learned for the member ports of MC-LAG 102 are flushed in both aggregations switches 106 and edge node 104, and new MAC entries are learned for newly formed link aggregates LAG1 and LAG2. *Id.* at 18:24–30, 20:20–24. Aggregation switches 106 are assigned different MAC addresses and are viewed by edge node 104 as two independent local entities operating in a stand-alone mode, no longer needing to synchronize MAC table entries over VFL 124. *Id.* at 18:30–35. Link parameters for stand-alone mode and multi-chassis mode may be pre-configured by a system administrator or automatically determined by aggregation switch 106. *Id.* at 19:39–41.

The '489 patent further explains that a link aggregation module 416 in aggregation switch 106 reconfigures MC-LAG ports with a different second identifier and active administrative key for a link aggregate and regroups the member ports into a one or more new link aggregates to edge node 104. *Id.* at 20:1–8. Aggregation switch 106 exchanges its system identifier and administrative keys across the member links and through the newly configured link aggregate to neighboring devices. *Id.* at 20:8–13. As a result, the edge node detects the change from MC-LAG 102 to a link

aggregate and reconfigures its member ports of the link aggregate with a new set of link parameters. *Id.* at 20:13–16. Referencing Figure 14, the '489 patent explains that "[w]hen the STP module 412 receives notification that the VFL 124 is 'down' or other event indicates a connection failure of the VFL 124, the STP application module enables STP operation of the newly configured link aggregate member ports [in step 520]." *Id.* at 20:29–34.

VI. ILLUSTRATIVE CLAIM

Claim 1, reproduced below with paragraph designations uses in the Petition, is illustrative of the subject matter of the challenged claims.

1[Pre]. An aggregation switch in a multi-chassis system, comprising:
[A] a first set of member port interfaces of the aggregation switch grouped with one or more member port interfaces of a remote aggregation switch configured to form a multi-chassis link aggregate, wherein the multi-chassis link aggregate couples the aggregation switch and the remote aggregation switch to an edge node;
[B] a second set of port interfaces configured to form a virtual fiber link for coupling the aggregation switch to the remote aggregation switch;
[C] a processing module operable to:
[D] determine a connection failure of the virtual fiber link to the remote aggregation switch;
[E] reconfigure one or more of the first set of port interfaces of the multi-chassis link aggregate to form a link aggregate for coupling to the edge node; and
[F] initiate a spanning tree protocol in the one or more of the first set of port interfaces.

VII. ASSERTED GROUNDS

Petitioner asserts that claims 1–20 would have been unpatentable on the following grounds (Pet. 7):

Claim(s) Challenged	35 U.S.C. §	Reference(s)
1–3, 5–9, 11–17, 19–20	102	Narayanan[1]
1–20	103	Narayanan, Smith[2], Chin[3]
4, 10, 18	103	Narayanan, Mullooly[4]
15–20	103	Narayanan, Moberg[5], Mullooly

Petitioner notes that Smith and Chin are incorporated by reference into Narayanan and asserts the combination of Smith and Chin with Narayana to the extent they are not considered to be part of Narayanan. Pet. 43 (citing Ex. 1004[6], 4:12–15, 5:33–37).

VIII. LEVEL OF ORDINARY SKILL IN THE ART

According to Petitioner, a person of ordinary skill in the art in August, 2010 "would have a Bachelor's degree in Computer Science, Computer Engineering, Electrical Engineering, or an equivalent discipline, and at least one year's worth of experience developing computer networking or network architecture", or "two or more years of work experience in computer networking and in the development of client-server systems in lieu of the education requirements." Pet. 9 (citing Ex. 1004, Declaration of Dr. Nicholas Bambos ("Bambos Decl.") ¶ 18. Patent Owner does not offer a competing definition. Prelim. Resp. 17

The level of ordinary skill in the art usually is evidenced by the references themselves. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In*

[1] US Patent No. 7.639,605 B2 (Ex. 1005)
[2] US Patent Pub. No. 2005/0063395 A1 (Ex. 1006)
[3] US Patent No. 5,959,968 (Ex. 1007)
[4] US Patent No. 8,503,329 B2 (Ex. 1008)
[5] Patent No. 7,610,405 B1 (Ex. 1009)
[6] Petitioner misidentified Exhibit 1005 as Exhibit 1004.

re Oelrich, 579 F.2d 86, 91 (CCPA 1978). Petitioner's unchallenged definition of a person of ordinary skill appears consistent with the scope of the subject matter of the '489 patent and the art cited by Petitioner. We apply Petitioner's definition for purposes of this Decision.

IX. CLAIM CONSTRUCTION

A. Introduction

For petitions filed after November 13, 2018, we interpret claim terms using "the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b)." 37 C.F.R. § 42.100(b) (2019). In this context, claim terms "are generally given their ordinary and customary meaning" as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (citations omitted) (en banc). "In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (citations omitted).

Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). We construe only those claim terms that require analysis to determine whether to institute inter partes review. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that "only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy").

B. Claim Limitation [1.F]

Petitioner posits "no formal claim constructions are necessary." Pet. 17. Although Patent Owner proposes no claim constructions, Patent Owner contends we should deny institution because in the Texas Litigation Petitioner argued the term "the first set of port interfaces of the multi-chassis link aggregate" (claim limitation [1.F]) is indefinite. Prelim. Resp. 13–16. *See also* Ex. 2002, 11–14. Patent Owner notes that in the Texas Litigation, Petitioner argued that claim 1 is indefinite because claim limitation [1A] recites "a first set of member port interfaces of the aggregation switch" grouped with "one or more member port interfaces of a remote aggregation switch", but claim limitation [1F] recites "the first set of port interfaces of the multi-chassis link aggregate" without antecedent. Ex. 2002, 12.

Patent Owner argues that Petitioner cannot maintain that a claim is indefinite and anticipated/rendered obvious. Prelim. Resp. 14 (citing *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010). In *Enzo,* the Federal Circuit reversed the district court's decision that the claims were indefinite and affirmed the district court's determination that some of the claim were anticipated, some of the claim were not infringed, and remanded for further proceedings concerning other claims. *Enzo*, 599 F. 3d at 1343.

In this proceeding, Petitioner does not assert any claim is indefinite. Petitioner explains its silence in its Petition before the Board regarding its indefiniteness position in district court by stating the similarities between the prior art and the '489 patent disclosure are such that no formal claim construction position is required. Ex. 2002, 13 n. 11. Before the Board a petitioner may request to cancel as unpatentable patent claims "only on a ground that could have been raised under section 102 or 103 and only on the

basis of prior art consisting of patent or printed publication." 35 U.S.C. § 311(b). That is the only issue before us. The statute explicitly precludes Petitioner from asserting indefiniteness as a ground to seek cancellation of claims in an *inter partes* review. The potential existence of issues outside our purview that the statute anticipates a district court will address does not justify denying *inter partes* review

At the time Patent Owner filed its Preliminary Response, there had been no ruling by the court in the Texas Litigation that claim 1 is indefinite. On May 27, 2021, the district court ruled that this term is not indefinite and should be given its plain and ordinary meaning. Paper 12, 12. We address the plain and ordinary meaning of this term in more detail below.

For purposes of this Decision, we note that in its preamble, claim 1 is drawn to "an aggregation switch in a multi-chassis system." Claim 1 recites both an "aggregation switch" and a "remote aggregation switch." Claim limitation [1A] recites that the aggregation switch (recited in the preamble as being in a multi-chassis system) includes a first set of member port interfaces that is grouped with one or more member port interfaces of a remote aggregation switch configured to form a multi-chassis link aggregate that couples the aggregation switch and the remote aggregation switch to an edge node. As claim limitation 1[A] recites that the aggregation switch includes a first set of aggregation switch port interfaces grouped with port interfaces of a different switch, i.e., the remote aggregation switch, in claim limitation 1[F], the first set of port interfaces is part of the multi-chassis link of the aggregation switch. Thus, we understand "the first set of port interfaces" in claim limitation 1[F] to refer to the "first set of member port interfaces of the aggregation switch" in claim limitation 1[A].

X. ANALYSIS

A. Introduction

"In an [inter partes review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc*., 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring inter partes review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc*., 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in inter partes review).

Anticipation is a question of fact, as is the question of what a prior art reference teaches. *In re NTP, Inc*., 654 F.3d 1279, 1297 (Fed. Cir. 2011). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. Inc., v. Union Oil Co*., 814 F.2d 628, 631 (Fed. Cir. 1987); *see* also *Finisar Corp. v. DirecTV Group, Inc*., 523 F.3d 1323, 1334 (Fed. Cir. 2008) (to anticipate a patent claim under 35 U.S.C. § 102, "a single prior art reference must expressly or inherently disclose each claim limitation"). Moreover, "[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements 'arranged as in the claim.' " *Net MoneyIN, Inc. v. VeriSign, Inc*., 545 F.3d 1359, 1369 (Fed. Cir. 2008) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)).

Whether a reference anticipates is assessed from the perspective of an ordinarily skilled artisan. *See Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003) ("[T]he dispositive question regarding anticipation [i]s whether one skilled in the art would reasonably understand or infer from the [prior art reference's] teaching that every claim element was disclosed in that single reference." (Emphasis omitted) (quoting *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991))).

Additionally, under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates. *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (citation omitted); *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349–50 (Fed. Cir. 2002).

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Additionally, the obviousness inquiry typically requires an analysis of "whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")); *see In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (citing *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006)).

An obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007). Petitioner cannot satisfy its burden of proving obviousness by employing "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Instead, Petitioner must articulate a reason why a person of ordinary skill in the art would have combined the prior art references. *In re NuVasive*, 842 F.3d 1376, 1382 (Fed. Cir. 2016).

A reason to combine or modify the prior art may be found explicitly or implicitly in market forces; design incentives; the "'interrelated teachings of multiple patents'"; "'any need or problem known in the field of endeavor at the time of invention and addressed by the patent'"; and the background knowledge, creativity, and common sense of the person of ordinary skill. *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328–29 (Fed. Cir. 2009) (quoting *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–21 (2007)).

Before determining whether a claim is obvious in light of the prior art, we consider any relevant evidence of secondary considerations of non-obviousness. *See Graham*, 383 U.S. at 17. Notwithstanding what the teachings of the prior art would have suggested to one of ordinary skill in the art at the time of the invention, the totality of the evidence submitted, including objective evidence of non-obviousness, may lead to a conclusion that the challenged claims would not have been obvious to one of ordinary skill. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). The current record include no evidence of secondary considerations.

We analyze the asserted grounds of unpatentability in accordance with these principles to determine whether Petitioner has met its burden to establish a reasonable likelihood of success at trial.

B. Anticipation of Claims 1–3, 5–9, 11–15, 19, 20 by Narayanan

1. *Narayanan Ex. 1005*

Narayanan relates to a system and method for detecting and responding to failures in a virtual switch. Ex. 1005, 1:58–60. In Narayanan, "[a]virtual switch is a logical representation of a plurality of physical switches as a single switch." *Id.* at 1:60–61. A virtual switch within a computer network interconnects a plurality of access switches with one or more core switches. *Id.* at 2:2–5.

Narayanan discloses that a virtual switch is formed by interconnecting physical switches via one or more virtual switch links (VSLs). *Id.* at 61–63. The physical switches communicate with each other over the VSLs, electing one switch as the active part of the switch, i.e., a Master Chassis that executes bridging and routing protocols for the entire virtual switch, while the remaining parts of the switch, i.e., the Slave Chassis, remain in standby. *Id.* at 2:61–3:2. Each switch has a supervisor module that includes a protocol engine and virtual switch engine. *Id.* at 5–8. In cooperation with access switches, by exchanging control packets (Protocol Data Units or "PDUs") the protocol engine executes a link aggregation protocol that allows the virtual switch to determine whether it is coupled to any given access switch by more than one link. *Id.* at 2:8–13. "If so, the multiple links connecting the virtual switch to the given access switch are aggregated together." *Id.* at 2:13–15.

Figure 1 of Narayanan, which is a partial block diagram of a computer network (Ex. 1005, 2:60–61), is reproduced below.

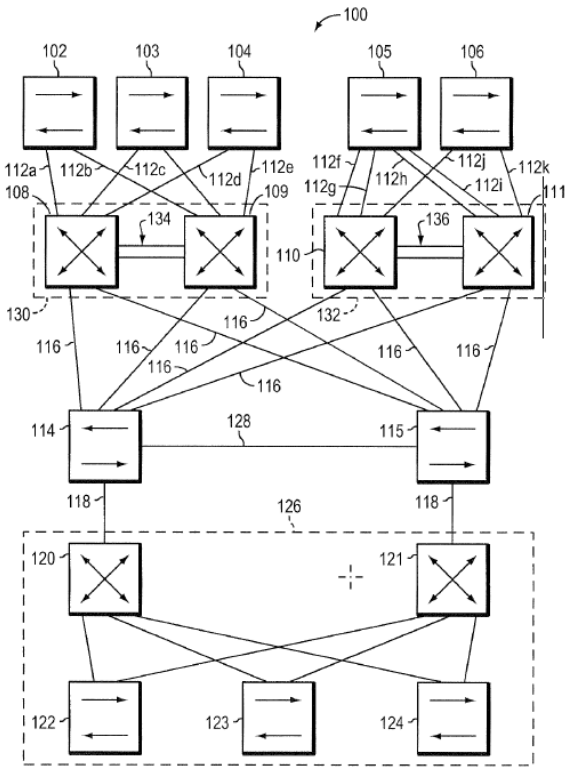

Figure 1 of Narayanan

In Figure 1, distribution switches 108, 109 linked by VSL 134 are logically organized to form virtual switch 130 and distribution switches 110, 111 linked by VSL 136 are logically organized to form virtual switch 132. *Id.* at 3:32–40, Figs. 1–2. VSLs 134, 136 carry control and data traffic between peer physical switches or chassis of the respective physical switch. *Id.* at 3:40–42. By forming virtual switch 130, distribution switches 108, 109 appear as a single large distribution switch to "access switches" 102–104. *Id.* at 3:42–45. Similarly, distribution switches 110, 111 appear as a single, large distribution switch to "access switches" 105, 106.

Figure 2 of Narayanan, showing a functional block diagram of a virtual switch, is reproduced below:

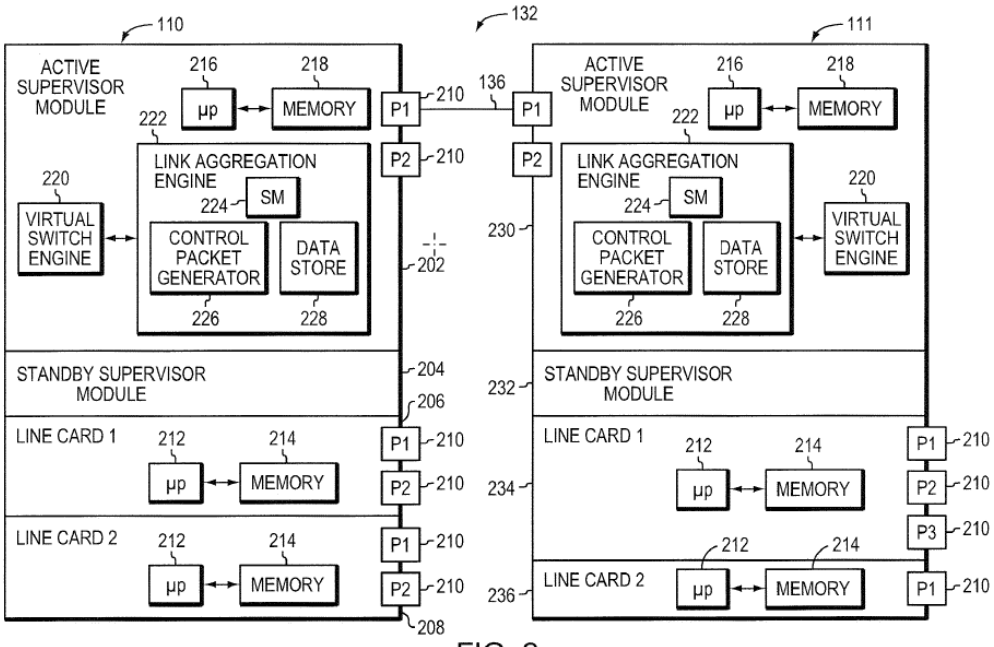

FIG. 2

In Figure 2, distribution switches 110 and 111 are logically organized to form virtual switch 132 linked by VSL 136. Distribution switch 110 includes active supervisor module 202, standby supervisor module 204 and a plurality of line cards 206, 208, each having a plurality of ports 210. *Id.* at 3:50–56. Active supervisor 202 includes virtual switch engine 220 and a protocol engine, e.g., link aggregation engine 222 and, in the embodiment shown, its own ports 210. *Id.* at 3:56–61. Link aggregation engine 222 has sub-components, including one or more state machines, control packet generator 226, and data store 228. *Id.* at 3:61–64. VSL 136, which leads to similarly constructed second distribution switch 111 of virtual switch 132, is coupled to port P1 210 of active supervisor module 202. *Id.* at 3:64–67.

In operation, each distribution switch with one or more supervisor modules elects one of them to be the active supervisor module for that switch and its other supervisor modules become standby supervisor modules. *Id.* at 4:56–64. Switches 110, 111 communicate with each other across VSL 136 electing one of them, e.g., 110, to be the active part of the

virtual switch 132 (Master Chassis); the other distribution switch, e.g., 111, becomes the standby part (Slave Chassis). *Id.* at 4:64–5:7. Forwarding decisions for virtual switch 132 are made by the Master Chassis Active Supervisor, which also executes bridging and routing protocols, such as the Spanning Tree Protocol. *Id.* at 5:8–15. Control packets, such as Bridge Control Data Units (BPDUs) received by the line card of the Slave Chassis, are sent to the Master Chassis for processing; similarly, control packets to be sent from the Slave Chassis are generated by the active supervisor module of the Master Chassis and sent to the Slave Chassis for transmission. *Id.* at 5:15–23.

Cessation of communication to the standby part from the active part across the VSLs indicates a failure of either the active part or the VSL, causing the standby part to presume it should become the active part of the virtual switch. Ex. 1005, 2:26–30, 7:45–55. In that case "the Slave Active Supervisor 230 initializes, and begins running the bridging and routing protocols of the virtual switch, including the forwarding of data messages." *Id.* at 7:55–59. The standby part loads its own ID into the active part ID of the PDUs and transmits these PDUs from its ports, signaling to the access switches that the former standby part is now the active part of the virtual switch. *Id.* at 2:30–36. The access switches respond by including this new information in the PDUs they send back to the virtual switch. *Id.* at 2:38–40. If the failure is a failure of the VSLs and the originally active part of the virtual switch continues to function, the original part will receive the PDUs from the access switches that carry the information indicating the former standby part is now the active part. *Id.* at 2:41–45. "The originally active part of the virtual switch will thus conclude that the VSLs have failed. In response the originally active part will take corrective action," e.g., by

relinquishing its role as the active part and entering a recovery mode in which ports of the active part, other than the ports of the VSLs are shut down. *Id.* at 2:45–47, *see also id.* at 7:45–8:58 (describing the process in the context of the Port Aggregation Protocol ("PAgP") from Cisco Systems, Inc., described in U.S. Patent No 5,959,968 and incorporated by reference (*id.* at 5:33–36)). According to Narayanan, although the process is described as an extension to PAgP, those of ordinary skill would understand it can be used with other protocols, such as the Link Aggregation Control Protocol (IEEE 802.3ad-2000 standard, incorporated by reference), the Cisco Discovery Protocol, and the Spanning Tree Protocol. *Id.* at 10:38–50.

2. *Claims 1, 8*

Petitioner argues apparatus claim 1 and parallel method claim 8 together. Pet. 22–32. Below, we address claim 1 as illustrative of the limitations of claims 1 and 8 and reach the same conclusions as to claims 1 and 8. As discussed below, Patent Owner disputes that Narayanan's microprocessor carries out the steps recited in claim limitations [1D], [1E], and [1F]. Patent Owner does not respond to Petitioner's other challenge grounds or Petitioner's contentions concerning any of the references other than Narayanan. *See generally* Prelim. Resp.

a) Claim 1 Preamble

The preamble of claim 1 recites "[a]n aggregation switch in a multi-chassis system." Pet. 29. Petitioner cites Narayanan's distribution switches 110, 111 logically organized to form virtual switch 132 as disclosing such an aggregation switch. *Id.* at 22, 29 (citing Ex. 1005, 3:34–36, Figs. 1, 2). Patent Owner does not respond explicitly to Petitioner's contentions concerning the preamble of clam 1. On the current record, we

are persuaded that Petitioner demonstrates that Narayanan discloses the preamble of claim 1.

b) Claim Limitation [1.A]

Petitioner designates as claim limitation [1.A] the recitation "a first set of member port interfaces of the aggregation switch grouped with one or more member port interfaces of a remote aggregation switch configured to form a multi-chassis link aggregate, wherein the multi-chassis link aggregate couples the aggregation switch and the remote aggregation switch to an edge node." Pet. 29. Petitioner cites Narayanan as disclosing distribution switches 110 (designated by Petitioner as the claimed remote aggregation switch), and 111 (designated by Petitioner as the claimed aggregation switch) logically organized to form virtual switch 132. *Id.* at 23–24. Petitioner notes that each aggregation switch has two line cards 234, 236 with a first set of ports 210 grouped in line cards 206, 208 of remote aggregation switch 110. *Id.* at 24, 29 (citing Ex. 1005, 3:34–36, 4:3–5, Figs. 1–2). Petitioner further notes that by the exchange of PDUs, virtual switch 132 and access switch 105 discover that they are interconnected by four links, 112 f–i aggregated together to from a single logical link or channel. *Id.* at 29 (citing Ex. 1005, 7:31–38)

Patent Owner does not respond explicitly to Petitioner's contentions concerning the clam limitation [1A]. On the current record, we are persuaded that Petitioner has demonstrated that Narayanan discloses claim limitation [1A].

c) Claim Limitation [1.B]

Petitioner designates as claim limitation [1.B] the recitation "a second set of port interfaces configured to a form a virtual fiber link for coupling the aggregation switch to the remote aggregation switch." Pet. 29. Petitioner

cites Narayanan as disclosing a second set of port interfaces 210 in active supervisor module 230 that form a virtual fiber link (VSL 136) with remote aggregation switch 110. Pet. 25. Specifically, Petitioner argues that distribution switch 111 has a plurality of ports 210, one of which (P1) is coupled to VSL 136 and to distribution switch 110. *Id.* at 29 (citing Ex. 1005, 3:39–40, 4:6–11, Figs. 1–2).

Patent Owner does not respond explicitly to Petitioner's contentions concerning the clam limitation [1B]. On the current record, we are persuaded that Petitioner has demonstrated that Narayanan discloses claim limitation [1B].

d) Claim Limitation [1C]

Petitioner designates as claim limitations [1.C] the recitation "a processing module operable to." Petitioner cites Narayanan's Active Supervisor Module 230 as having processing module 216 configured to carry out the claimed steps. Pet. 26, 29–30. Patent Owner does not dispute that Narayanan discloses a structure having a microprocessor, but disputes that Narayanan's microprocessor 216 carries out the steps recited in claim limitations [1D], [1E], and [1F].

e) Claim Limitation [1.D]

Petitioner designates as claim limitation [1.D] the recitation "determine a connection failure of the virtual fiber link to the remote aggregation switch." Pet. 30. According to Petitioner, Narayanan discloses processing module 216 is configurable to determine VSL 136 fails when it stops receiving communications from switch 110. *Id.* at 27, 30 (citing Ex. 1006, 7:48–59); Ex. 1004, Bambos Decl. ¶ 99).

Patent Owner argues that Narayanan cannot anticipate "determining a failure of the virtual fiber link to the remotes aggregation switch" because

the subject matter of Narayanan cited by Petitioner states explicitly that Slave Chassis 111 cannot tell whether this communication failure is due to some failure of the Active Chassis, or to a failure of the VSL 136. Prelim. Resp. 18–20 (citing Ex. 1005, 7:48–59).

The text of Narayanan reads "[s]uppose that the VSL of virtual switch 132 fails, thereby cutting off communication between two distribution switches 110 and 111 that make up virtual switch as indicated at block 428 [of Fig. 4C]". Ex. 1005 7:45–48. Block 428 in Figure 4C reads "VSL Fails." *Id.* at Fig. 4C. Thus, Narayanan is configured to "determine a failure of the virtual fiber link to the remote aggregation switch." Narayanan makes this determination based on the absence of communications from the switch. At this stage Narayanan's system has not distinguished between a failure of the VSL or the Active Chassis; in either case Slave Chassis 111 responds by taking the active role for virtual switch 132. *Id.* at 7:53–55. Narayanan further discloses that, if running, Active Chassis 110 determines a failure of VSL 136 if its link aggregation engine 222 discovers the Master Chassis ID field does not carry the ID assigned to switch 110, as shown in block 446, but instead carries the ID assigned to switch 111. Ex. 1005, 8:37–46, *see also, id.* at 2:26–49. Thus, we are persuaded for purposes of this Decisioin that Petitioner has demonstrated Narayanan discloses the features recited in claim limitation [1D].

f) Claim Limitation [1.E]

Petitioner contends Narayanan teaches a processor operable to "reconfigure the first set of port interfaces of the multi-chassis link aggregate to form a link aggregate for coupling to the edge node" (claim limitation [1.E]) because Narayanan discloses that, in taking over the role of the virtual switch, Slave Active Supervisor in Slave Chassis 111 initializes and begins

running the bridging and routing protocols of the virtual switch, including forwarding of data messages. Pet. at 30 (citing Ex. 1005, 7:54–59).

Patent Owner argues that although Narayanan discloses Slave Chassis 111 is configured to respond by taking over the active role of the virtual switch, including forwarding data messages, Narayanan does not disclose reconfiguring any port interfaces. Prelim. Resp. 20–21. Petitioner, however, cites Narayanan as disclosing processing module 216 "reconfigures the multi-chassis link aggregate into at least one link aggregate formed of ports 210 in line cards 234 and/or 236 for coupling with the edge nodes 105 and 106." Pet. 27 (citing Ex. 1005, 7:48–59, Ex. 1004, Bombas Decl. ¶ 100). According to Petitioner, "at least links 112h and 113i form a link aggregate from switch 111 to node 105." *Id.* (citing Ex. 1004, Bombas Decl. ¶ 100). Referencing Figure 1, Petitioner's expert testifies that in Narayanan, although links 112 f–i that connect to edge nodes 105 come from two different physical switches 110, 111, "links 112 f–i 'are preferably aggregated together to form a single logical link or channel,'" i.e., a single logical link aggregate. Ex. 1004, Bombas Decl. ¶ 76 (quoting Ex. 1005, 7:33–38). Dr. Bombas further explains that, in Narayanan,

> [s]witch 110 concludes that the VSL 136 between it and switch 111 has failed. In response, switch 110 preferably takes corrective action, as indicated at block 448. In this illustrative embodiment, this corrective action includes placing all of its ports and interfaces other than the ports and interfaces associated with VSL 136 in a down state, such that no data traffic is sent or received by switch 110.

Id. ¶ 100 (quoting Ex. 1005, 8:44–51), *see* Ex. 1005, Fig. 4. Accordingly "while links 112f–i formed a link aggregate pre-failure, post failure links 112 f–g are severed and links 112 h–i have to be reconfigured into a new

link aggregate to allow communication between virtual switch 132 (i.e., its only active physical switch 111) and switch 105." *Id.*

On the current record, we credit Dr. Bombas's testimony and find that for purposes of institution, Petitioner has demonstrated that Narayanan discloses claim limitation [1.E].

g) Claim Limitation [1.F]

Petitioner identifies as claim limitation [1.F], the recitation to "initiate a spanning tree protocol in the one or more of the first set of port interfaces." Pet. 30. Petitioner contends that Narayanan discloses claim limitation [1F] because in Narayanan processing module 216 in Slave Active Supervisor 230 runs the necessary bridging and routing protocols, which includes initiating a Spanning Tree Protocol, such as that executed by the Master Active Supervisor 202. Pet. 28, 30 (citing Ex. 1005, 7:54–59, 5:12–15; Ex. 1004, Bombas Decl. ¶ 101).

Patent Owner argues that Narayanan "only discloses executing the Spanning Tree Protocol," but does not disclose "the required **initiating a spanning tree protocol *in the one or more of the first set of port interfaces***." Prelim. Resp. 23. Patent Owner also argues that Petitioner does not advance an argument that this limitation is inherent in Narayanan. *Id.* at 23–24.

As discussed above, Petitioner argues, and Patent Owner does not dispute, that Narayanan discloses a first set of member port interfaces 210 at the line cards of the aggregation switch in the form of ports 210, as distinguished from a second set of ports 210 coupled to VSL 136. Petitioner's expert explains that as a result of Narayana's active switch 110 disabling all its ports and severing its communication links, a major network change occurs. Ex. 1004, Bombas Decl. ¶ 101. This network change "will

require identifying loop-free paths afresh, which the Spanning Tree Protocol now run by module 230 of switch 111 will do." *Id.*

As discussed above, the '489 patent discloses a Spanning Tree Protocol is disabled on the MC-LAG member ports coupled to edge node 104 in aggregation switches 106a and 106b and enabled in the portion of the network between the aggregation switches and nodes in the metro/core network. Ex. 1001, 16:45–63, Fig. 9. However, during failure recovery, aggregation switches 106 enable a Spanning Tree Protocol on link aggregates LAG-1 420 and LAG-2 422 connected to edge nodes as well as between aggregation switch 106 and core network 120. Ex. 1001, 18:13–16, Fig. 11.

Petitioner does not identify a disclosure in Narayanan explicitly stating that the aggregation switch enables a Spanning Tree Protocol on links between ports on edge or access switches to ports of the aggregation switch. However, Petitioner points out that in Narayanan, when there is a failure, the Slave Active Supervisor takes over the active role of virtual switch 132 by running the bridging and routing protocols, including Spanning Tree Protocols. Pet. 30 (citing Ex. 1005, 5:1–2–15, 7:54–59). Narayanan illustrates the process in the context of the PAgP protocol, in which the standby part (the Slave) loads its own ID into the active part ID of the PDUs and transmits these PDUs from its ports (the first set of port interfaces), signaling to the access switches that the former standby part is now the active part of the virtual switch. *Id.* at 2:30–36. The access switches respond by including this new information in the PDUs they send back to the virtual switch. *Id.* at 2:38–40. Narayanan also expressly states the process could be implemented using a Spanning Tree Protocol. *Id.* at 10:38–50. In

view of this disclosure, we are persuaded that for purposes of institution that Petitioner has demonstrated Narayanan discloses claim limitation 1[F].

h) Conclusion as to Claims 1 and 8

Based on our review of evidence in the current record, for the reason discussed above, we find that Petitioner has demonstrated a reasonable likelihood it will prevail in its challenge to claims 1 and 8 as anticipated by Narayanan.

3. *Claims 2–3, 5–7, 9, and 11–14*

As to claim 2, which depends from claim 1 and recites "the remote aggregation switch is in a separate physical chassis," Petitioner cites Narayanan as disclosing distribution switch 111 and remote switch 110 are separate physical chassis. Pet. 32 (citing Ex. 1005, Abstract, 3:32–47, Figs. 1–2). Claim 14 depends from claim 8 and recites an additional limitation that is substantially the same as that of claim 2. Based on the current record, we are persuaded that for purposes of this Decision, Petitioner has demonstrated Narayanan discloses all the features of claims 2 and 14.

Claims 3 and 9 depend from claims 1 and 8, respectively, and recite "re-assigning link parameters designating the first set of ports as a multi-chassis link aggregate to link parameters designating the first set of ports as a link aggregate." As to this limitation, Petitioner cites Narayanan's explanation that "switch 111 changes the Master Chassis ID link parameter to the unique ID associated with switch 111 upon failure of the VFL." Pet. 33 (citing Ex. 1005, 8:4–15; Ex. 1004, Bambos Dec. ¶ 105). Based on the current record, we are persuaded that for purposes of this Decision, Petitioner has demonstrated Narayanan discloses all the features of claims 3 and 9.

Claim 5 depends from claim 1 and recites "enabling a spanning tree protocol on the first set of port interfaces." As to this limitation, Petitioner references its discussion of clam limitation 1[F]. Pet. 33. Claim 5 also recites "identifying a loop through the aggregation switch of packets belonging to a virtual local area network" and "blocking forwarding of packets belonging to the virtual local area network on one or more port interfaces of the aggregation switch to prevent the identified loop." Petitioner argues a person of ordinary skill would have known that "the purpose of running an STP is to identify loops and block packets over certain ports as necessary." *Id.* Petitioner also notes that explicit disclosure in Chin (incorporated by reference in Narayanan) states the purposes of STP is to avoid the formation of loops using an algorithm that severs certain paths or ports by placing them in blocking mode that prevents forwarding packets over the blocked port. *Id.* (citing Ex. 1005, 5:32–42; Ex. 1007, 3:11–36). Based on the current record, we are persuaded that for purposes of in this Decision, Petitioner has demonstrated Narayanan discloses all the features of claims 5.

Claim 6 depends from claim 1 and further recites (i) receiving an incoming packet that includes a destination address, (ii) determining destination hardware device information corresponding to a hardware device in the remote aggregation switch based on the destination address of the incoming packet, and (iii) from the incoming packet generating a packet with a pre-pended packet that includes the destination hardware device information. *See*, Ex. 1001, 23:8–18. Claim 12 depends from claim 8 and recites limitations similar to those in claim 6. Petitioner cites details from Smith, incorporated by reference in Narayanan, as disclosing receiving incoming packet with a destination address, determining the packet is

destined for an address that should be sent via peer chassis 110 and generating a packet with a header that includes the destination port. Pet. 36 (citing Ex. 1006 ¶¶ 78, 80). Petitioner further argues a person of ordinary skill would understand that the header is added to the beginning of the packet (i.e., pre-pended). *Id.* at 36–37 (citing Ex. 1006 ¶111). Recognizing that Narayanan incorporates Smith by reference, based on the current record, for purposes of this Decision, we are persuaded Petitioner has demonstrated Narayanan discloses all the limitations of claims 6 and 12.

Claim 7 depends from claim 1 and recites that the second set of port interfaces is operable to determine a failure of the virtual fiber link and block forwarding of packets over the virtual fiber link. Ex. 1001, 23:22–25. Claim 13 depends from claim 8 and recites limitations similar to those of claim 7. Petitioner cites Narayanan as disclosing that failure of the VSL cuts off communication between switches 110 and 111, effectively blocking the forwarding of packets over the link. Pet. 39 (citing Ex. 1004, Bombas Decl. ¶ 114) . Based on the current record, we are persuaded that for purposes of this Decision, that Petitioner has demonstrated Narayanan discloses all the features of claims 7 and 13.

4. *Claims 15 and 19–20*

Petitioner notes that independent method claim 15 is similar to independent apparatus claim 1 and independent method claim 8, but claim 15 further recites "receiving a command to operate in a stand-alone mode." Pet. 40. Petitioner states that a person of ordinary skill would know that when a VSL goes down, the processor in the supervisor module for switch 111 receives a command to operate in a stand-alone mode independent of switch 110 after the disconnection. Pet. 40–42 (citing Ex. 1005, 7:48–59, ("the Slave Chassis 111 is preferably configured to respond by taking over

the active role for the virtual switch . . . Slave Supervisor 230 initializes and begins running the bridging and routing protocols of the virtual switch, including the forwarding of data messages.")(emphasis omitted); Ex. 1004, Bambos Decl. ¶ 121. Although Petitioner does not cite an explicit disclosure of "receiving a command to operate in a stand-alone mode," we are persuaded for purposes of this Decision that Petitioner has demonstrated a person of ordinary skill would reasonably understand or infer this feature from the subject matter disclosed in Narayanan. *Dayco Prods.*, 329 F.3d at 1368.

Claims 19 and 20 depend from claim 15. Petitioner contends that Narayanan anticipates claim 19 for the same reasons Narayanan anticipates the similar limitations recited in claims 5 and 11 discussed above. Pet. 42. Petitioner contends that Narayanan anticipates claim 20 for the same reason Narayanan anticipates the similar limitations recited in claims 7 and 13 discussed above. *Id.* For the same reasons as those discussed above with respect to claims 5, 7, 11 and 13, on the current record we are persuaded Petitioner has demonstrated Narayanan discloses the limitations recited in claims 19 and 20.

C. Claims 1–20 As Obvious Over Narayanan (Incorporating Smith and Chin by Reference)

1. *Claims 1–3, 5–9, and 11–14*

Petitioner notes that Narayanan incorporates Smith and Chin by reference. Pet. 43 (citing Ex. 1004, 4:12–15, 5:33–37). Petitioner argues that, to the extent we do not consider Smith and Chin to be part of Narayanan's disclosure, in view of Narayanan's explicit reference to Smith and Chin, a person of ordinary skill would have had reason to combine their teachings with those of Narayanan. *Id.* Petitioner notes that Narayana cites

Smith as providing details for a suitable design of switch 132, including components such as forwarding engines, filtering databases, and spanning tree engines. *Id.* (citing Ex. 1004 (sic), 4:17–18). Petitioner also notes Narayanan's explanation that Chin discloses details of an illustrative embodiment of PAgP as run by link aggregations engines 222 and 310 disposed in virtual switch 132 and access switches 105, 106. *Id.* (citing Ex. 1004 (sic), 5:32–39). On the current record, we are persuaded for purposes of the Decision that Petitioner has demonstrated a person of ordinary skill would have had reason to combine the teachings of Smith and Chin with those of Narayanan.

To the extent Narayanan is considered not to teach explicitly "reconfiguring[ing] one or more of the first set of port interfaces of the multi-chassis link to form a link aggregate" (clams 1, 8, and 15), Petitioner contends person of ordinary skill would have recognized that while the VFL was down, port interfaces could not operate as a multi-chassis link aggregate and the ports in switch 111 would have to operate as a link aggregate at least until the VFL comes back online, and two switches are synchronized. Pet. at 44.

To the extent Narayanan is considered not to teach explicitly "initiat[ing] a spanning tree protocol in the one or more of the first set of port interfaces," (claim 1, 8, and15), Petitioner argues the a person of ordinary skill would have known an Spanning Tree Protocol must be run because upon failure of the VSL, switch 111 initializes and begins running bridging and routing protocols that Narayanan teaches include Spanning Tree Protocols. Pet. 45 (citing Ex. 1005, 5:13–14, 7:57–58, 8:11–15).

To the extent Narayanan is considered not to teach explicitly "reassigning link parameters designating the first set of ports as a multi-

chassis link aggregate to link parameters designating the first set of ports as a link aggregate" (claims 3 and 9), Petitioner contends a person of ordinary skill would have understood that certain parameters within active supervisor 230 must be reassigned when switch 111 takes over the active role, e.g., Active Supervisor 230 must use the unique ID for switch 111 in the Master Chassis ID field in messages it sends. Pet. 46 (citing Ex. 1005, 7:57–58; Ex. 1004, Bambos Decl. ¶ 132).

To the extent Narayanan is considered not to teach explicitly "blocking forwarding of packets over the virtual fiber link" (claims 7, 13, and 20) Petitioner argues a person of ordinary skill would understand that upon detection of a VFL link failure by Active Supervisor 230, it would be wasteful to attempt to send resources over a failed link and communication over that link would be blocked until the connection is re-established. Pet. 46–47 (citing Ex. 1004, Bambos Decl. ¶ 134).

To the extent Narayanan is considered not to teach explicitly "generat[ing] a packet with pre-pended header from the incoming packet, wherein the pre-pended header includes the destination hardware device information" (clams 6 and 12) Petitioner argues that a person of ordinary skill would have understood that headers are typically pre-pended, i.e., added to the head of a packet for networking protocols. *Id.* at 47 (citing Ex. 1004, Bambos Decl. ¶ 133).

2. *Claims 15–17, and 19–20*

Petitioner contends that to the extent Narayanan is considered to not teach explicitly "receiving a command to operate in stand-alone mode" (claim 15), a person of ordinary skill would have understood that a network administrator powering down switch 110 for maintenance could send a command to switch 111 to operate in stand-alone mode, causing switch 111

to operate in the same way it would operate if a VSL failed. Pet. 47–48 (citing Ex. 1004, Bambos Decl. ¶136).

Claim 16 depends from claim 15, and recites "determining link parameters for operating in the stand-alone mode from a pre-determined table, wherein the link parameters for operating in the stand-alone mode include link parameters for the link aggregate and a system identifier that is different from the system identifier of the remote aggregation switch." Petitioner contends a person of ordinary skill would have understood that stand-alone mode Active Supervisor 230 could store in a predetermined table link parameters useful to improve efficiency by reducing calculation processing required by switch 111. Pet. 48. Petitioner further notes that Slave Active Supervisor 230 places the unique ID assigned to Slave Chassis 111 into Master Chassis ID field 542, as opposed to the ID assigned to Active Chassis 110 used in the PAgP PDUs 500 prior to the failure. *Id.* (citing Ex. 1005, 8:4–15).

Claim 17 depends from claim 16 and further recites "re-configuring the plurality of the first set of ports with the link parameters for the link aggregate." Noting its prior discussion of claims 3 and 9, which recite re-assigning" the link parameters for the first set of ports, Petitioner contends it would have been obvious to "re-configure" the link parameters as recited in claim 17 for the same reasons as those discussed with respect to claims 3 and 9. Pet. 49.

3. *Claim 4, 10, and 18*

Claim 4 depends from claim 3. Petitioner characterizes claim 4 as detecting a change of link parameters, flushing MAC table entries, and repopulating MAC table entries. Pet. 49. Petitioner contends that Narayana (via Smith incorporated by reference) discloses that each switch 110 and 111

has its own Layer 2 forwarding table with MAC addresses (a MAC table) and that the VSL maintains consistency between the two tables. *Id.* (citing Ex. 1006 ¶¶ 17, 48). Petitioner notes that, in, Narayanan when the VSL goes down and switch 111 becomes the active switch, MAC table entries that came from switch 110 would no longer work and would need to be flushed from the table. *Id.* at 50 (citing Ex. 1004 Bambos Decl. ¶ 141). According to Petitioner, Narayanan discloses repopulating the MAC table entries by flooding the network to determine the proper route. *Id.* (citing Ex. 1006 ¶ 48).

Petitioner notes that claim 10 depends from claim 9 (*see* claims 3 and 9 discussed above) and recites the additional limitations similar to those of claim 4. Claim 18 depends from claim 17, discussed above, and recites limitations similar to those of claim 4. Petitioner contends that claims 10 and 18 would have been obvious to one of ordinary skill over Narayanan for the same reasons as discussed relative to claim 4.

4. *Conclusion*

On the current record, we are persuaded that Petitioner has demonstrated for purposes of this Decision that Narayanan, which incorporates the Smith and Chin by reference, would have taught or suggested the limitations of claims 1–20 to a person of ordinary skill in the art.

D. Claims 4, 10, and 18 As Obvious Over Narayanan and Mullooly

Figure 1 of Mullooly is reproduced below.

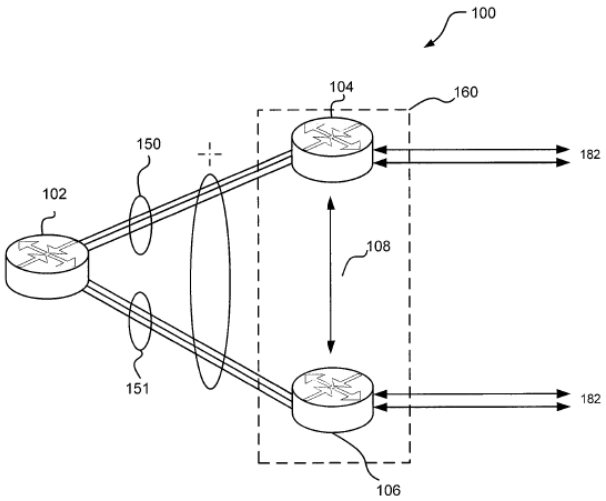

Figure 1 of Mullooly

Figure 1 of Mullooly shows network system 100 utilizing a multi-chassis link aggregation including dual-homed routing device 102 linked with routing devices 104, 106 via communication links 150, 151, each of which is aggregated to form a single logical communication link. *See*, Ex. 1008, 2:57–3:16. Routing devices 104, 106 are in communication with each other by way of inter-chassis control plane channel 108. *See*, *id.* at 3:60–4:20.

In view of the similarity of their subject matter, Petitioner contends a person of ordinary skill would have had reason to combine the teachings of Narayana and Mullooly. Pet. 54. Petitioner cites Mullooly as disclosing switches configured to form multi-chassis link aggregations and details about the control channel session between two switches over inter-chassis control plane 108, including synchronizing information. *Id.* at 52–53 (citing Ex. 1008, 3:61–62, 6:51–65).

As to the limitations of claim 4 (and similar limitations of claim 10 and 18), Petitioner notes that Mullooly discloses that if a routing device fails, other routing devices may be required to flush and repopulate their MAC tables. *Id.* at 53–54 (citing Ex. 1008, 8:40–43). According to

Petitioner, Smith, incorporated by reference in Narayanan, teaches one way to repopulate a table is by flooding all ports and hardware learning. *Id.* at 54 (citing Ex. 1006 ¶ 48).

On the current record, we are persuaded that Petitioner has demonstrated for purposes of this Decision that a person of ordinary skill would have had s reason to combine the teachings of Narayanan and Mullooly and the combined teachings disclose the limitations of claims 4, 10, and 18.

E. Claims 15–20 As Obvious Over Narayanan, Moberg, and Mullooly

Moberg relates to computer networks and systems and methods for replacing software controlling active routers, while minimizing the impact on network operation. *See* Ex. 1009, 1:16–54. Petitioner cites Moberg as disclosing a method for upgrading active switching device A that requires reboot: active switching device A sends a command to switch B, indicating switch B should start acting as the primary switch, until primary switch A comes back online. Pet. 55 (citing Ex. 1009, Fig. 2, 3, 4:53–56).

Noting that switches 110, 111 of Narayanan are software controlled deices that may benefit from occasional upgrades, Petitioner argues a person of ordinary skill would have had reason to upgrade switches 100, 111 with minimal data interruption using Moberg's redundant switch to handle traffic while an upgrade is being performed. Pet. 56–57 (citing Ex. 1004, Bambos Decl. ¶¶ 149–151). Thus, according to Petitioner, claim 15, which recites "receiv[ing] a command to operate in stand-alone mode," would have been obvious to a person of ordinary skill over Narayanan and Moberg. *Id.* at 58. According to Petitioner, claims 16, 17, 19, and 20 would have been obvious over Narayanan and Moberg for the reasons discussed above; similarly

claim 18 would have been obvious over Narayanan, Moberg, and Mullooly. *Id.*

On the current record, we are persuaded that Petitioner has demonstrated for purposes of this Decision that a person of ordinary skill would have has reason to combine the teachings of Narayanan, Moberg and Mullooly and the combined teachings disclose the limitations of claims 15–20.

XI. CONCLUSION

For the reasons discussed above, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it will succeed on the following challenges to patentability:

Claims 1–3, 5–9, 11–17, and 19–20 as anticipated by Narayanan;

Claim 1–20 as obvious over Narayanan;

Claims 4, 10, and 18 as obvious over Narayanan and Mullooly; and

Claims 15–20 as obvious over Narayanan, Moberg, and Mullooly.

XII. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a) an *inter partes* review of the ’489 patent is hereby instituted, commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial;

FURTHER ORDERED that the trial is authorized on all grounds set forth in the Petition; and

FURTHER ORDERED that the trial will be conducted in accordance with a separately entered corresponding Scheduling Order

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